

SOV/124-58-7-8139 D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 117 (USSR)

AUTHOR: ~~Ninua, N.A.~~

TITLE: On the Calculation of Unbraced Trusses (K raschetu bezraskosnykh ferm)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of the Technical Sciences, presented to the Tbilissk. in-t inzh. zh.-d. transp. (Tbilisi Institute for Rail Transportation Engineering), Tbilisi, 1957

ASSOCIATION: Tbilissk. in-t inzh. zh.-d. transp. (Tbilisi Institute for Rail Transportation Engineering), Tbilisi

1. Beams--Mathematical analysis

Card 1/1

Translation from: Referativnyy zhurnal. Mekhanika, 1958, Nr 10, p 141 (USSR)

SOX/124-58-10 11716

AUTHOR: N. nua N. A.

TITLE: Calculation of Trusses Without Diagonals (K raschetu bez askosnykh ferm)

PERIODICAL: Nauchn. soobshch. Tbilissk. in-t zh.-d. transp., 1957, Nr 12, 51 pp, ill.

ABSTRACT: Calculation of equi-paneled trusses without diagonals with horizontal chord members of equal rigidity and vertical posts is studied under the action of a concentrated force acting on one of the joints of the frame which has previously been resolved into its symmetrical and skew-symmetric components relative to the horizontal axis. One of the possible basic systems of the method of forces is chosen - a series of three-hinged frames - in which the calculation is reduced to a system of three-term equations by grouping the principal unknowns relative to the vertical axis of symmetry of the frame. By neglecting the deformations caused by longitudinal and transverse forces the number of the fundamental unknowns is equal to the number of panels in the truss. Explicit expressions for the

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Calculation of Trusses Without Diagonals

fundamental unknowns are given for the application of the concentrated force at different joints as well as graphs and tables for the terminal bending moments in the various panels. Construction of the influence lines is studied. Some allowable simplifications in calculations are pointed out.

A. A. Gorin

Card 2/2

NIKUA, N. Ye., Doc Tech Sci (diss) -- "Theoretical principles of the working process, methods of computation and design of a regenerative rotary air-heater with a movable ball cover". Moscow, 1959. 23 pp (Min Transportation USSR, Moscow Order of Lenin and Order of Labor Red Banner Inst of Railroad Transport Engineers in I. V. Stalin), 150 copies (KL, No 21, 1959, 114)

18(5)

AUTHOR:

Ninua, N.Ye., and Kumskov, V.T., and Aksenov K.P.,
~~Candidates~~ of Technical Sciences

SOV/128-59-9-8/25

TITLE:

Regenerative Air Heating in Cupolas

PERIODICAL:

Litseynoye proizvodstvo, 1959, Nr 9, pp 27-29 (USSR)

ABSTRACT:

Utilization of cupola outlet gases represents one of the most important factors in increasing foundry productivity. The Iron Foundry imeni Voykov has introduced an air-heating process whereby the outlet gases having a temperature of 500° - 800°C are passing through a number of balls placed in a cylinder (Fig 6). The air-heater is provided with a rotor that has 12 sectors and serves for rotation of the balls. The optimum diameter of balls may vary from 3 to 10 mm depending on the cleanliness of gases passing through them. The function of the air-heater consists of an alternating admission of hot gases and cool air into the cylinder. The gases entering the air-heater are giving a part of their heat to the balls which, in turn, heat up the air passing through the cylinder. Thus, the gases cool off from 800°C to 250°, while the air becomes heated up to 400° - 420°C. Rotation

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Regenerative Air Heating in Cupolas

of balls intensifies the process of heat-exchange between the gases and the balls, and favors the rate of air-heating. At the same time, the air-heater serves as a cleaning medium purifying the cupola outlet gases. There are 4 graphs, 6 diagrams and 2 Soviet references.

Card 2/2

MINUA, N.Ya.

Heat transfer and resistance in a regenerative rotary air preheater with a movable ball-type capping. Trudy MIIT no.139:119-121 '61. (MIRA 16:4)

1. Gruzinskiy politekhnicheskiy institut.
(Air preheaters)

KLINUA, Nikolay Yermolayevich; KUMASOV, V.T., red.

[Regenerative rotary air preheaters] Regenerativnyi
vrashchivushchiesia vozdukhopodogrevateli'. Moskva,
Vysshaya shkola, 1965. 105 p. (MIRA 18:7)

МИЗХБАДААН, С.

Data on earthquakes on the territory of the Mongolian People's
Republic. Bul. Sev. no seism. no.6:33-35 '57. (MIRA 11:3)

1. Komitet nauk Mongol'skoy Narodnoy Respubliki, Ulan-Bator.
(Mongolia--Earthquakes)

MI'0, H., MI. nauchen sutrudnik.

Deputy Director

Colorimetry and its application in pharmaceutical analysis.
Farmatsia, Sofia 4 no.3:6-9 May-June 54.

(COLORIMETRY,
in pharmaceutical analysis)

KHOPIROV, Z., starshiy leytenant; BUKIN, V., leytenant

Solution of problems Nos. 9-12 on preparation fire published in no.9.
Voen.vest. 18 no.12:74-75 D '58. (MIRA 12:1)
(Shooting, Military) (Tank warfare)

BUCHULIYA, V.G.; BALUASHVILI, A.A.; NIORADZE, T.N.; LATSABIDZE, L.L.

Effect of exercise therapy on the restoration of impaired coordination of movements in some forms of neurasthenia (with vestibulopathy). Trudy Tbil.GINUV 6:203-210 '62.

(NIRA 16:2)

(EXERCISE THERAPY)

(NEURASTHENIA)

L 38313-66
ACC NR: AP6027981

SOURCE CODE: CZ/0024/66/000/004/0104/0106

AUTHOR: Hipl, Zdenek (Engineer); Krudonc, Jaroslav (Engineer) 30

ORG: Institute of Geodesy and Cartography, Pardubice (Ustav geodzie a kartografie)

TITLE: Preparation of a sectoral summary of cultural areas in accordance with the data of real estate registers

SOURCE: Geodeticky a kartograficky obzor, no. 4, 1966, 104-106

TOPIC TAGS: punched card, computer, economic system

ABSTRACT: Experience in preparation of the summary by means of punched-card machinery is described. Summaries were prepared of all the subtypes of production and of the total values of parcels by kinds. Agricultural cooperatives were classified in groups according to their areas. Processes used in a surveying department and in a computer center are discussed. Orig. art. has: 2 tables. [Based on authors' Eng. abst.]
[JPRS: 36,844]

SUB CODE: 09, 05 / SUBM DATE: none

Card 1/1

UDC: 747.235.11(437)"1965" : 518.5
0917 1686

PAUKO, Ivan Kallistratovich; MAKHACHOV, Aleksandr Yakovlevich;
NIFONKO, Yuri, rec.

[Economic regions of the Ukraine] Ekonomichni raiony
Ukrainy. Kyiv, Polityvydav Ukrainy, 1965. 94 p.
(MIRA 18:8)

POLAND/Chemical Technology. Chemical Products and Their Appli-
cation. Industrial Organic Synthesis

H-15

Abstr Jour : Ref Zhur - Khim., No 24, 1958, No 82559

Author : Miras S.

Inst

Title : $\text{Fe}_2(\text{SO}_4)_3$ as Catalyst in the Synthesis of Dibutylphthalate

Orig Pub : Rozn. chem., 1957, 31, No 3, 1047-1048

Abstract : In the synthesis of dibutylphthalate (I) by esterification of $\text{C}_4\text{H}_9\text{OH}$ (II) with phthalic anhydride (III), catalysts (K) normally employed are: organic or mineral acids, inorganic salts, or ion exchange resins. The use of mineral acids (particularly H_2SO_4) results in the formation of tar and requires neutralization of the product. The use of organic acids requires, in addition to the neutralization, separation of the product, which, at times imposes undue difficulties. Majority of the inorganic acid salts must be employed in rather large quantities. $\text{Fe}_2(\text{SO}_4)_3$ (IV) may be used conveniently as a catalyst. It has not been employed,

Card : 1/2

NIRAZ, S.

1
(High-boiling esters. Politechnika Szczecińska (by Antoni Zieliński and Seweryn Niraz). Pol. 41,000, July 6, 1955. P&O) and P&O 5,000, which are hydrated, prevent excessive emulsion when used instead of H₂SO₄ to catalyze formation of high-boiling esters in the standard esterification process. These esters are almost colorless and odorless and can be dried without further processing.

3
1-JAJWB

NIRENBLAT, S., mgr. Inz.

Thermal cracks and breaks in massive concrete blocks. Gosp
wodna 24 no. 4:131-135 Ap '64.

1. Energoprojekt, Warsaw.

NIRENBURG, V.L.; POSTOVSAIY, I.Ya., CHERTNOVA, E.I.

1-aryl-5-alkylmercatotetrazole and 1-aryl-5-alkylsulfonyletetrazole
and their antituberculous activity. Izv.vys.ucheb.zav.: khim. i
khim.tekh. 8 no.2:258-261 1965. (MIRA 18:8)

1. Ural'skiy politekhnicheskii institut imeni Kirova i Sverdlovskiy
nauchno-issledovatel'skiy institut tuberkuleza.

NIRAZ, Seweryn; CHODKOWSKI, Edward

Diminishing the polychlorobenzene content in the continuous chlorination process of benzene in liquid phase. *Chemia stosow* 8 no. 1:117-126 '64.

1. Department of Biochemistry, College of Agriculture, Szczecin (for Niraz). 2. Department of Organic Chemical Technology, Technical University, Szczecin.

NIRENBERG, L.

Some aspects of linear and nonlinear partial differential
equations. Usp. mat. nauk 18 no.4:101-118 J1-18 '63.
(MIRA 16:9)

BOBROVA, L.A.; NIRENBERG, M.A.

Adsorption of methane from a hydrazoic mixture using zeolites.
Neftoper. i neftekhim. no.2:32-33 '64. (MIRA 17:8)

1. Ufimskiy neftyanoy institut, Salavatskiy kombinat.

NIRENBERG, M.D., inch.

Work practices in controlling the carrying out of regulations.
Bezop. truda v prom. 8 no.12:35 D '64. (MIRA 18:3)

1. Upravleniye Moskovskogo gorodskogo okruga Gosudarstvennogo
komiteta pri Sovete Ministrov RSFSR po nadzoru za bezopasnym
vedeniyem rabot v promyshlennosti i gornomu nadzoru.

NIRENBLAT, S., agr., inst.

On cost abatement and shortening of the time of construction of
hydroelectric power stations. Gosp vodna 21 no.8:317-320 Ag '61.

1. "Energooprojekt" - USSR.

NIRENBLATT, S., mgr inż.

Determination of earth pressure on buttresses put on
nonrocky soil foundations. Gosp wodna 24, no. 1: 11-16
Ja '64.

1. Energoprojekt, Warszawa.

NIRENBLAT, Saloma, mgr inż

Cementation of rocky and alluvial soils in the construction of dams and power tunnels. Gosp wodna 23 no.2:60-67 F '63.

1. Energoprojekt, Warszawa.

NIRENBURG, V. L.

75-1-42/63

AUTHORS: Nirenburg, V. L. , Postovskiy, I. Ya. , Cherkasov, V. M.

TITLE: On Some Aryl Derivatives of Cyanogen Thiourea (O nekotorykh arilproizvodnykh tsianionoshevinnykh)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol.28, Nr 1, pp.198-203 (USSR)

ABSTRACT: In publications a number of thiourea compounds were described which possess biological activity. A large number of these papers was recently devoted to the derivatives of aminothiourea (thiosemicarbazide), among whom compounds of an antituberculous activity were found. Other derivatives of thiourea could also be of interest, thus e.g. those with the physiologically active cyanogen group. Thus it was attempted to synthesize some N-aryl-N'-cyanogen-thioureas ($\text{Ar-NH-CS-NH-C}\equiv\text{N}$). The easily accessible 5-imino-3-thion-1,2,4-dithiazolidine (isopersulfocyanic acid, "hydroxanthane") formula (I) served as initial product. This product which had already been obtained by Wöhler 1821 (reference 3) forms from potassium thiocyanate and sulfuric acid in the cold. In the conversion of 5-imino-

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72-1-42/63

On Some Aryl Derivatives of Cyanogen Thiourea

no-3-thion-1,2,4-dithiazolidine with aromatic amines the heterocycle splits with elimination of elementary sulfur and forms 1-aryldithiobiurates. Dithiobiurate easily oxidizes and is again converted to a cyclic dithiazolidine compound (III) "thiuret" which under the influence of a caustic potash solution is subject to splitting, where N-aryl-N'-cyanogen-thiourea manifests itself as a potassium salt of the isoform (IV). Thus the potassium salts and the methyl ethers of the isoform N-aryl-N'-cyanogen-thiourea were synthesized. It was found that, in contrast to aromatic formic acids, α -aminopyridine and α -aminopyrimidine split up "hydrazanthene", under which conditions thiocyanogen-hydrogen-salts of heterocyclic amines (not of dithiobiurates) form. It was shown that the potassium salts of cyanamidodithiocarbonic acid and N-aryl-N'-cyanisothioureas with various metals yield precipitates insoluble in water. On examination in vitro the N-aryl-N'-cyanisothiourea-salts proved to be inactive against the tuberculosis bacteria. There are 2 tables, and 10 references, 1 of which is Slavic.

ASSOCIATION: Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut)
Card 2/3

NIRENBURG, V.L.; POSTOVSKIY, I.Ya.

Cyanoethylation of 1-phenyl-5-tetrazolinethione. Zhur. ob. khim.
34 no.10:3200-3203 O '64. (MIRA 17:11)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova, Sverdlovsk.

AUTHORS:

Postovskiy, I. Ya., Nirenburg, V. L.

SOV/156-59-2-29/48

TITLE:

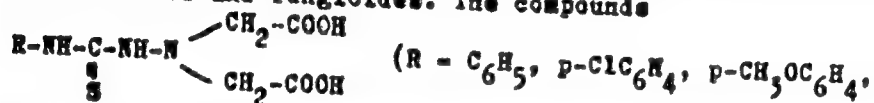
Thiosemicarbazide Derivatives of Imino-di-acetic Acid
(**Thiosemikarbazidnyye proizvodnyye iminodiuksusnoy kisloty**)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 330-332 (USSR)

ABSTRACT:

The derivatives of imino-di-acetic acid have gained considerable importance as complex-forming compounds. Some of them, the so-called "complexons" are not only applied in analytical chemistry but also in medicine as detoxicators promoting the separation of detrimental metal compounds. Substances containing another group beside the residue of imino-di-acetic acid appeared to be of interest for biological experiments. For this purpose thiourea was chosen as it shows - as well as some of its derivatives - reactions together with various metal salts; apart from this thiourea derivatives are also bacterioides and fungicides. The compounds



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Thiosemicarbazide Derivatives of Imino-di-acetic Acid SOV/156-59-2-29/48

1-C₁₀H₇) were synthesized. Tables 1 and 2 show the physical data of these compounds. The reactivity of the sodium salts with respect to complex formation with metals was polarographically examined. Soluble complexes form with Co²⁺ at pH 2.4-12.0. There are 1 table and 4 references, 1 of which is Soviet.

PRESENTED BY: Kafedra organicheskoy khimii Ural'skogo politekhnicheskogo instituta im. S. M. Kirova
(Chair of Organic Chemistry, Ural Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: July 22, 1958

Card 2/2

POSTOVSKIY, I.Ya.; NIRENBURG, V.L.

Aminomethylation of 1-aryl-5-tetrazolinethiones and the
structure of the bases obtained. Zhur. ob. khim. 34 no.
8:2517-2521 Ag '64. (MIRA 17:9)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.

NIRENBURG, Ya-L.

PHASE I BOOK EXPLOITATION

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Sverdlovsk, Russia. Institut istorii partii

Sotsialisticheskoye stroitel'stvo na Urals; sbornik statey (Socialist Construction in the Ural Industrial Area; Collection of Articles) [Sverdlovsk] Sverdlovskoye knizhnoye izd-vo, 1957. 345 p. 5,000 copies printed.

Ed. (front of book): Zuykov, V.N., Candidate of Historical Sciences; Ed. (back of book): Getling, Yu.; Tech. Ed.: Pal'mina, N.

PURPOSE: This collection of articles is intended for the general reader.

COVERAGE: The collection contains reports on the economic growth of the Ural Industrial Area, including the development of farming. Particular attention is given to the role played by this region during the 2nd World War. Relatively little space is devoted to the current Five Year Plan. There are 20 photographs in the text, some of which show industrial objects.

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Buzunov, V.Ye. Defeat of the International Intervention and of the Kolchak Movement in the Ural Region

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Socialist Construction in the Ural (Cont.)

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Nirenburg, Ya.L. Restoration and Consolidation of Soviet Power in the Ural
Region Following the Defeat of Kolchak (1919-1920) 43

Plotichkin, V.A. The Ural Party Organization in the Struggle to Restore the
National Economy (1921-1925) 79

Kulikov, V.M. The Ural Party Organization in the Struggle for the Socialist Indus-
trialization Policy (1926-1929) 110

Zuykov, V.M. Contributions to the History of the Creation of Ural Heavy
Industry (1930-1932) 145

Zuykov, V.M. The Ural Party Organizations in the Struggle for the Victory
of Collective Farming (1927-1934) 177

Nesterenko, M.S. Heroic Feats of Ural Workers During the Great Patriotic
War 211

Card 2/3

PEREDVODITSEVA, A.D., kand.tekhn.nauk; DUBROVSKAYA, M.P., insth.;
NIZHNSHCHIN, B.Z., insth.

Using new kinds of synthetic fibers in the knit goods industry.
Leg. prom. 18 no.7:20-22 J1 '58. (NIMA 11:9)
(Knit goods industry) (Textile fibers, Synthetic)

HIRSHSTEIN, B.Z., inzh.; KOBLANTS, S.G., inzh.

Improving the quality of "Chlorin" yarn. Tekst.prom. 19
no.10:70-72 0 '59. (MIRA 13:1)
(Yarn) (Knit goods)

NIKOLAYEV, B.Z., nauchnyy sotrudnik; **PREVODITELEVA, A.D.,** nauchnyy sotrudnik **PARSHINA, N.N.,** nauchnyy sotrudnik; **AGAPOVA, A.D.,** nauchnyy sotrudnik; **RAPOPORT, K.A.,** nauchnyy sotrudnik **KOBLENTS, S.G.,** inzh.

Manufacture of chlorine knit underwear and its therapeutic use.
Tekst.prom. 21 no.6:71-73 Je '61. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut trikotazhnoy promyshlennosti (for Nikolshteyn, Prevoditeleva, Parshina, Agapova).
2. Institut obshchey i komunal'noy gigiyeny (for Rapoport).
3. Trikotazhnaya fabrika "Krasnaya Zarya" (for Koblents).
(Knit goods industry)
(Underwear)

LEVISON, E., professor; ~~WILKINSON~~ WILKINSON, E., insulator.

Full utilization of an absorption cold storage plant for the
production of tubercoid. Zhel.tekh. 31 no.4:20-25 G-D '54.

(NLRA 6:1)

(Refrigeration and refrigerating machinery) (Roofing)

NIKOL'SHIY, Z.N.

Using hydraulic horizontal crushers in making roofing paper.

Stroil. mat. 7 no.2:25-26 P '61.

(MIRA 14:3)

1. Nachal'nik tekhnicheskogo otdela Odesskogo ruberoydnogo zavoda.
(Roofing)

HIRSHFELD, Z. Sh., inzh.

Methods for calculating time required for drying roofin/
paper. Stroil. mat. 6 no.3:33-35 Mr '60. (MIRA 13:6)
(Roofing)

NIRENSHTEYN, Z.Sh., kand. tekhn. nauk

Use of double-walled steel cylinders in drying roofing paper.
Stroi. mat. 10 no.11:26-27 N '64.

(MIRA 18:1)

DARKANBAYEV, T.B.; LYSENKO, M.E.; NIRETINA, N.V.

Effect of boron, molybdenum, and manganese on some quality indices
of tomatoes. Trudy Inst.bot.AN Kazakh.SSR 20:144-155 '64.
(MIRA 18:1)

NIRENSHTYKH, Z.Sh.

Radiation dryer for cardboard. Sum.prom. 36 no.1:20-21 Ja '61.

(MIRA 14:3)

1. Nachal'nik tekhnicheskogo otdela Odesskogo ruberoidnogo zavoda.
(Cardboard—Drying)

CSABAY, Akos, okleveles gépészmérnök; RENNER, István, okleveles villamosmérnök;
Kossuth-díjas; RICHOLD, István, okleveles villamosmérnök; Varga, István,
okleveles tanár; mérnök

Mortal accidents caused by the application of high-voltage rubber
covered cables. Magyar Lapok No. 7: 1966-1967, 11-12.

NINBURG, A. K., Eng

PA 167T72

USSR/Metals - Gas Cutting Aug 50

"Cutting Torches Operating on Gases Other Than Acetylene," A. K. Ninburg, Eng, VILAVTOREM (All-Union Sci Res Inst of Autogenous Welding)

"Argon Delo" No 8, pp 22-23

VILAVTOREM developed two cutting torches, KZP-49 and URZ-49, for oxygen cutting using illuminating gas, coke-oven gas, and methane for preheating. Torches have two changeable injectors and five reversible tips. Gives operating characteristics. Experiments showed possibility of cutting low-carbon steels from 5 to 250 mm thick. Speeds were similar

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USSR/Metals - Gas Cutting (Contd) Aug 50

to those of oxyacetylene cutting, but cost is considerably lower.

167T72

USSR/Engineering - Flame Cutting,
Equipment

Feb 51

"Methods for Designing Injecting Torches Operating on Substitutes for Acetylene," A. K. Minburg, Engg, VNIITVtrogen

"Argon Deio" No 2, pp 9-13

Used methane and synthetic coke gas. Studied detn of optimum ratio of gases in preheating mixt; detn of conversion coeff between acetylene and substitute gas; permissible speeds of fuel mixt flow from tips; consumption of oxygen and fuel; orifice dimensions for fuel mixt; detn

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USSR/Engineering - Flame Cutting,
(Contd)

Feb 51

of hole-diams in injector and mixing chamber. Steel up to 250 mm thick may be cut efficiently by torches of this design.

185120

NINBURG, A. K.

USSR/Engineering - Flame Cutting,
Processes

Oct 51

"Effect of Oxygen Purity on the Process of Surface Oxygen Cutting," A. K. Ninburg, Engr,
VNIItavtogen

"Avtogen Delo" No 10, pp 13-16

Describes expts with oxygen of 8 grades from 85.5 to 99.4% pure. Surface cutting of low-carbon steel is impossible with oxygen of purity less than 95%. There is optimum cutting rate for each value of oxygen purity. At this rate max productivity of operation and min oxygen consumption are attained.

202741

MINBURG, A. E.

"Investigation of the Parameters of Surfaces of Oxygen Cutting and Methods of Torch Design for this Process With the Use of Various Gases." Sub 13 Sep 51, Moscow
Order of the Labor Red Banner Higher Technical School imeni Bauman

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

USSR/Engineering - Flame Cutting, Fuel May 52

"Replacing Acetylene by Other Fuel Gases in
Oxyacetylene Cutting," A. K. Minburg, Engg, VNI-
avtogen

"Avtogen Delo" No 5, pp 9-13

Develops method for detg technological parameters
of fuel mixt, such as oxygen-gas ratio and coeff
of substituting other gases for acetylene, and for
calcg orifice diam and permissible rate of mixt
flow. Method gives all data necessary for designing

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tips of cutting torches and permits detg possibility
for utilizing given gas in oxygen cutting. Only
knowledge of gas compn is required, calorimetric
measurements being eliminated.

Minburg, A. K. (ENGR)

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ASM

202-4. Influence of Purities of Oxygen on the Process of Oxygen Surface Cutting. (In Russian.) A. K. Nisberg. *Atmosfera* (Mosc., v. 22, Oct. 1981, p. 12-16).

Investigated on low carbon steel it was found that O_2 of less than 99% purity is not satisfactory; for a given purity there is an optimum rate corresponding to the maximum productivity of the cutter and minimum use of O_2 . Tables and graphs. (G22, CN)

ACCESSION NR: AP4019234

8/0056/64/046/002/0671/0672

AUTHOR: Miri, Yu.

TITLE: The positive pion plus proton to two pions plus nucleus reaction near the threshold

SOURCE: Zhurnal eksper. i teor. fiz., v. 45, no. 2, 1964, 671-672

TOPIC TAGS: Integral Low equations, algebraic Low equations, scattering amplitude, scattering amplitude expansion, unitarity condition, crossing relations, N/D method, Salzman method, Low equation solution

ABSTRACT: Reactions in which two pions are produced by collision between a positive pion and a proton are considered near threshold, and the differential cross sections of these reactions are obtained accurate to third-order terms in the relative momenta of the produced particles. This is a refinement of earlier work by V. V. Anisovich, A. A. Ansel'm, and V. N. Grivov (ZhETF, v. 24, 224, 1962), who carried out the calculations to second-order terms inclusive only. The results obtained serve as a first-order correction to

Cord. 1/2

ACCESSION NR: AP4019234

to the previous results. The total probability of the three-particle reaction can be obtained by summing the earlier results and those obtained in the present paper. "In conclusion I am deeply grateful to A.A. Ansel'm for help with the work." Orig. art. has: 7 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. P. Ioffe AN SSSR
(Physicotechnical Institute AN SSSR)

SUBMITTED: 10Jul63	DATE ACQ: 27Mar64	ENCL: 00
SUB CODE: PK	NO REF SOV: 003	OTHER: 002

Cord 2/2

NIRI, Yu.

The $\pi^+ + \rho \rightarrow \pi^+ + \pi^+ + N$ reaction near the threshold. Zhur. eksp.
i teor. fiz. 46 no.21671-672 F '64. (MIRA 17:9)

1. Fiziko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR.

CHEGUNYKH, Vladimir Petrovich; NIKIZOVA, N.T., red.

[Effect of specialization upon the level of labor productivity] Vliianie spetsializatsii na uroven' proizvoditel'nosti truda. Moskva, Ekonomika, 1965. 9 p.
(MIRA 18:9)

BONDARENKO, N.A., inzh.; RATNER, A.M., inzh.; SOKOLOV, K.A., inzh.;
GURANOV, N.P., inzh.; SCHIN, M.M., inzh.; TARAKANOV, O.P., inzh.;
IVANOV, S.M., inzh.; MIRK, A.D., inzh.; ROVKAKH, S.Ye., kand.tekhn.
nauk; FILIPPOV, V.V., inzh.; KHAYKIS, L.B., kand.tekhn.nauk;
LIMENDEY, V.I., inzh.; VELICHKIN, Ye.A., inzh., red.; KHITROV, P.A.,
tekhn.red.

[Handbook for mechanics of a construction project] Spravochnik
mekhanika stroitel'nogo uchastka. Pod red. K.A.Sokolova. Moskva,
Vses.isdatel'sko-poligr.ob'edinenie M-va putei soobshchenia, 1960.
619 p. (MIRA 14:3)

(Mechanical engineering) (Road machinery)
(Railroads--Construction)

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A004/A001

1.2300

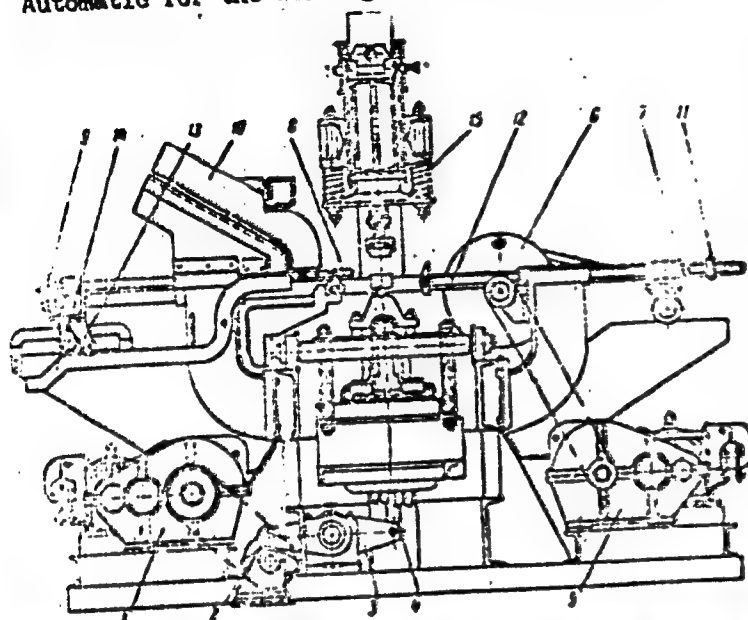
AUTHORS: Kirk, A.D., Muller, M.Z.
TITLE: Automatic for the Welding of Reinforcement Mesh
PERIODICAL: Byulleten' tekhniko-ekonomicheskoy informatsii, 1960, No. 6, pp. 10 - 12
TEXT: The Bushevetskiy stankoremontnyy zavod (Bushevets Machine Tool Repair Plant) has produced in 1959 a welding automatic with a capacity of 3,500 welding spots/hour for the welding of reinforcement mesh up to 4.5 m wide and of practically unlimited length. The welding machine is a design of the inventor P.I. Beletskiy and was projected by the design office of Stavstroymekhanizatsiya of the Ministerstvo transportnogo stroitel'stva (Ministry of Transport Construction). The automatic welding machine operates in the following way: Actuated by a rope drive, a welding transformer with electrode panel is traveling along the welded bed structure, while the carriage with the upper shunting clamps travels along a girder. Drive 1 with the aid of cam 2, levers 3, pull 4 and squeezing springs displaces the upper beam upwards and downwards, while drive 5 with the aid of

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Automatic for the Welding of Reinforcement Mesh



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crankshaft 6 makes frame 7 carry out reciprocating movements in the horizontal plane. The indexing rods 8, actuated by a special magnet and gear with rack 9, can rotate around their longitudinal axis. Loading installation 10 is mounted on the bed. The slot width of this installation can be regulated according to the bar diameter of the mesh being welded. Prior to welding, the bars are straightened, then the longitudinal bars are placed in special jig holes located at a definite distance from another. The transverse bars are placed into the slots of the loading device. The

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Automatic for the Welding of Reinforcement Mesh

longitudinal pitch of the automatic is set by displacing the stop bushes on grip rods 12. The working cycle of the automatic begins with the frame of the feed mechanism being moved towards the loading device, the notches in the indexing rods tallying with the slot of the loading device and roll 13, while the left end of lever 14 rises. The right end of the lever is lowered and a transverse bar falls into the notch of the indexing hook - the utmost left position of the crankshaft. Then the frame with the transverse bar is displaced towards the reverse direction, i.e., in the direction of the electrodes. When the transverse bar has reached the welding line, the frame stops automatically and the transverse bar is fixed over the electrodes. Then springs 15 with the upper shunting clamps are pressing the bars against the lower electrodes. The time of preliminary pressing and welding time is controlled by an electron time relay. After having welded a whole row of spots, the welding transformer stops in one of the utmost positions, the feed mechanism is actuated and the frame together with the indexing rods is traveling again towards the loading device. The ready mesh is lifted with the aid of a special winch, which rotates in synchronization with the feed drive of the automatic. The following technical data are presented: dimensions of the mesh honeycombs - from 80 x 100 to 250 x 400 mm; mesh adjustment interval - 20 - 25 mm; number of spots welded simultaneously - 2 or 4; diameter combination of rods

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A004/A001

Automatic for the Welding of Reinforcement Mesh

being welded: of smooth profile steel - from 3 + 3 to 16 + 16 mm, of steel with changing profile - from 6 + 6 to 8 + 8 mm; duration of the automatic cycle (when operating with four electrodes and a mesh width of 4,400 mm and a pitch of 100 mm) 44 seconds; welding delay - 0.04 - 1.4 sec; beam pressing force - 800 - 1,200 kg, power of welding transformer - 107 kva; necessary power - 62 kw; water consumption for cooling the welding spot - 0.25 m³/h; overall dimensions (length x width x height) - 6,663 x 2,300 x 1,900 mm; weight - 4,400 kg. There is 1 figure.

Card 4/4

NIRE, A.D.

Make small machinery available to the construction of transportation systems. Trans. stroi. 13 no. 12832-32 D*63 (MIRA 17s?)

1. Glavnyy inzh. Glavnogo upravleniya mekhanizatsii stroitel'stva.

NIRKA, Ye.A., starchyi prepodavatel'.

Academic practice conference of chemistry teachers of Moldavian schools. Khim.v shkole 14 no.5:92-93 8-0 '59.
(MIRA 12:12)

1. Kafedra khimii Tiraspol'skogo gospedinstituta im. T.G. Shevchenko.
(Moldavia--Chemistry--Study and teaching)

NIRMAN, S.A., laborant

Making films from the succulent layer of the onion. Zdrav.Bel.
8 no.2:56 P '62. (MIR/ 15:11)

1. Kafedra obshchey biologii Vitebskogo meditsinskogo inatituta
(zav. kafedroy - doktzent E.M.Zubina).
(PLANT CELLS AND TISSUES)

L 02271-67

ACC NR: AF0028254

uniform in the first approximation and to be given in succeeding approximations by the solution of the diffusion equation for the total flux calculated in the preceding approximation. The results of the computations are compared with those given by the simple diffusion theory, and it is concluded that the curvature of the ion trajectory significantly affects the charging current only when the radius of the sphere is less than 10^{-6} cm, and that the simple diffusion theory is adequate when the radius of the sphere is greater than 0.5×10^{-6} cm. The fluctuations of the number of ions on the sphere are calculated by treating the charging of an ensemble of spheres as a Markov process. It is concluded that the fluctuations are negligible when the radius of the sphere exceeds 0.5×10^{-6} cm, but that they increase with decreasing radius of the sphere and are appreciable when the radius is of the order of the ion mean free path. The sources of error in the fluctuation calculations are discussed. The methods of the present paper can also be employed to treat the charging of dielectric spheres provided it can be assumed that the charge is uniformly distributed over the surface. Orig. art. has: 28 formulas, 6 figures, and 2 tables.

SUB CODE: 20

SUBM DATE: 17May66

ORIG. REF: 004

OTH REF: 002

Card 2/2 vab

~~NIS. A.Ye.~~

Results of medical and sanitary care for participants in the
1959 Spartakiada of Mogilev Province. Zdrav. Beier. 6
no. 7:52-53 Je'60. (MIRA 13:6)

1. Glavnyy vrach Mogilevskogo oblastnogo vrachebno-fiskul'tur-
nogo dispensera.
(MOGILEV PROVINCE—SPORTS—HYGIENIC ASPECTS)

WISAN, G.I.

Treatment of pulmonary tuberculosis of the inferior lobe
in adults. Probl. tub. 42 no.10:14-20 '64.

(MIRA 18:11)

1. 2-ye terapevticheskoye otdeleniye (zav.- doktor med. nauk
I.S. Sergeyev) Moskovskogo nauchno-issledovatel'skogo instituta
tuberkuleza (direktor-kand. med. nauk T.P. Mochalova; zastititel'
direktora po nauchnoy chasti - prof. D.D. Asseyev) Ministerstva
zdravookhraneniya RSFSR.

POPOV, A.; ALEKSIEV, B.; NISANJAN, P. [~~Mikhaelov, B.~~]

Oil of the fruit *Ailanthus glandulosa* Desf. Doklady
BAH 15 no.2:143-146 '62.

1. Chemisch-technologisches Institut, Sofia, und
Institut für organische Chemie der Bulgarischen Akademie
der Wissenschaften, Sofia. Vorgelegt von Akademienmitglied G.
Rankov.

ALEXIEV, B. [Aleksiev, B.]; NISANJAN, P. [~~Nisanjan, P.~~]

On the nitrating of substituted alkylaryl indones. Doklady BAN 15
no. 8: 845-848 '62.

I. Chemisch-technologisches Institut, Sofia. Vorgelegt von Akademienmitglied
D. Ivanoff [Ivanov, D.].

ALEKSEV, B. [Aleksiev, B.]; NISANJAN, P. [Nishanian, P.]

Nitration of certain 2,3-diaryl-substituted indones. Doklady
BAM 16 no.2:169-172 '63.

1. Chemisch-technologisches Institut, Sofia. Vorgelegt von
Akademienmitglied D. Ivanoff [Ivanov, D.]

1133-14, S.L.

Isogenetic rutile and a anatase in upper Devonian schists
of the Argichi Basin. Zap. Akad. Nauk. SSSR, 1958, 14:10
158 1958.

(Argichi Valley - Rutile)

(Argichi Valley - Anatase)

WISANYAN, G.B.; PETROSOV, I.Kh.

Mineralogical composition of Paleozoic clay shales in the south-
western part of the Armenian S.S.R. Zap.Arm.oid.Vses.min.ob-va
no.2:88-94 '63. (MIRA 16:10)

TSERTSVADZE, Sh.I.; KANIELAKI, O.M.; NISANYAN, G.B.

Agroclimatic conditions of mountain fruit growing in the
Armenian S.S.R. Trudy Tbilnigmi no.12:84-101 '63. (MIRA 18:5)

FEDOROV, L.T., kand.tekhn.nauk; LEONT'YEVSKIY, B.B.; GIL'DENBLAT, Ya.D.,
kand.tekhn.nauk; KONENISTOV, D.V.; ROSSINSKIY, K.I., kand.tekhn.
nauk; KUZ'NIN, I.A., kand.tekhn.nauk; KONDRATSEVA, A.A., insh.;
NISAR-MUKHAMEDOVA, G.W., insh.; PANOVA, G.W., insh.; ROZHDESTVENSKIY,
G.L., insh.; SEMIKOLENOV, A.S., insh.; TSAREVSKIY, S.V., insh.;
ZHUKOVA, M.F., insh.; GRISHIN, M.M., retsenzent; KRITSKIY, S.W.,
doktor tekhn.nauk, red.; KENKEL', M.F., doktor tekhn.nauk, red.;
GALANTIONOV, V.D., kand.geol.-min.nauk, red.; ZAVALISHIN, I.S., insh.,
red.; MALYSHEV, N.A., insh., red.; MIKHAYLOV, A.V., doktor tekhn.
nauk, red.; PETROV, G.D., insh., red.; RAPOPORT, Ya.D., red.; RUSSO,
G.A., kand.tekhn.nauk, glavnyy red.; SEVAST'YANOV, V.I., insh., red.;
TITOV, S.V., insh., red.; TISTROVA, O.W., red.; LARIONOV, G.Ye.,
tekhn.red.

[Hydrology and water economy of the Volga-Don] Gidrologiya i vodnoe
khozisiatvo Volgo-Dona. Pod red. S.W.Kritskogo i M.F.Mankel's.
Moskva, Gos.energ.iad-vo, 1960. 146 p. (MIRA 13:11)

1. Moscow. Vsesoyuznyy proyektno-issledatel'skiy i nauchno-issledovatel'skiy institut "Gidroyekt" imeni S.Ye.Zhuk. 2. Deyatvitel'-nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Grishin).
(Don River--Water resources development)

NISARBAYEVA, K. S.

USSR/Chemical Technology. Chemical Products and Their Application -- Treatment of natural gases and petroleum. Motor fuels. Lubricants, 1-13

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5498

Author: Ryabova, N. D., Nisarbayeva, K. S.

Institution: Academy of Sciences Uzbek SSR

Title: Hydrocarbons of the Oil Fraction of Khodzhivadskaya Petroleum

Original Publication: Izv. AN UzSSR, 1956, No 2, 65-70

Abstract: Investigation of the oil fraction of 427-518° (solidification point 400, $\eta_{50} = 51.0$ cSt, flash point 222° Br.) of Khodzhivadskaya (Ferskaya) petroleum (Sp. Gr. 0.835, MW 218, paraffin content 5.66%). After preliminary separation of solid paraffins the oil was separated in aromatic and paraffin-naphthenic hydrocarbons (H) by stepwise freezing of dichloethane solution. On cooling to -250 paraffin-naphthenic H of MW 407 were separated, having the composition $C_{29.2}H_{57}$, consisting of 30% monocyclic and 70% bicyclic

Card 1/2

NISARBAIYVA, K.S.; KHONZHAYEV, O.Kh.; BUNOVA, Ye.G.

Individual aromatic and six-membered naphthene hydrocarbons of the
Khedshiabad gas condensate. Uzb.khim.shur. no.6:65-73 '59.
(MIRA 13:4)

1. Institut khimii AN UzSSR.
(Hydrocarbons) (Naphthenes)

YISAYEVA, Ye. D.

MISAYEVA, Ye. D., ~~insener~~; KORYUSHENKO, A. I., ~~insener~~; BAZANOVA, K. D.,
~~insener~~.

Eliminating the causes of destruction of paint on welded seams of
agricultural machines. Sol'khozmaschina no. 1:32-3 of cover Ja '54.
(MIRA 7:1)

1. Saved "Krasnyy Akty". (Paint--Testing)

Nishiyama, Yo D

OSTRIKOV, M.S.; SHIPRIN, G.Ye.; KORYUSHEVO, A.I.; NISHIYAMA, Yo.D.

Causes of the coagulation of prime coat No. 136 in dipping tanks.
(MIRA 9:8)
Sol'khozmashtina no.5:29-30 My '56.

1. Kafedra fizicheskoy i kolloidnoy khimii Rostovskogo gosudarstven-
nogo universiteta imeni V.M. Molotova i Tsentral'naya laboratoriya
savoda "Krasnyy Aktyu".
(Paint)

NISELOVSKAYA, L.I.; PADERINA, Ye.M.

Processes of oxidative phosphorylation in the liver of guinea
pigs poisoned with staphylococcal toxin. Vop. med. Khim. 9
no. 3:256-260 My-Je '63. (MIRA 17:9)

1. Otdel biokhimi i otdel mikrobiologii Instituta eksperimental'noy
meditsiny AMN SSSR, Leningrad.

NISEL'SON, L. A.

NISEL'SON, L. A.: Author's abstract of a dissertation on "The separation of zirconium and hafnium by the method of rectification" submitted toward the academic degree of Candidate in Technical Sciences. Min Higher Education USSR, Moscow Inst of Nonferrous Metals and Gold Ireni M. I. Kalinin, Moscow, 1956. (Dissertation for the Degree of Candidate in Technical Sciences)

Knizhnaya letopis', No 39, 1956, Moscow.

L 11249-07 LSA(M)/LSP(U)/MIA
ACC NR: AP6031726

SOURCE CODE: UR/0370/06/000/005/5109/0170

AUTHOR: Petrusevich, I. V. (Moscow); Nisel'son, L. A. (Moscow); Belyayev, A. I. (Moscow); Gurevich, M. A. (Moscow)

ORG: None

TITLE: On the problem of producing titanium silicides by simultaneous hydrogen reduction of titanium and silicon tetrachlorides

SOURCE: AN SSSR. Izvestiya. Metally, no. 5, 1966, 169-176

TOPIC TAGS: silicide, chemical reduction, titanium compound, chloride, silicon compound, metal purification

ABSTRACT: APPROVED FOR RELEASE: Tuesday, August 01, 2000
This is a continuation of a previous paper on production of titanium silicides by simultaneous hydrogen reduction of titanium and silicon tetrachlorides (Petrusevich, I. V., Nisel'son, L. A., Belyayev, A. I., "On the Production of Titanium Silicides by Simultaneous Hydrogen Reduction of Titanium and Silicon Tetrachlorides", Izv. AN SSSR, Metally, 1965, No 5, 55-57). $TiSi_2$ was deposited on a heated Ta filament 0.7 mm in diameter under the following conditions: $SiCl_4:TiCl_4$ ratio in the initial vapor-gas mixture--2:1; hydrogen excess--2200%; rate of hydrogen flow--0.8 l/min and filament temperature--1190-1200°C. A dense silicide deposit was formed with a uniform diameter at a rate of 0.15 g/cm²·hr or 0.3 mm/hr for radial growth rate. The yield of

UDC: 669.295.371

1/15/51
SON, L.A.
[Faint, mostly illegible text block]

AUTHORS:

Niseli, V.I., Niseli'son, L.A.
Niseli, V.I., Niseli'son, L.A.

32-12-60/71

TITLE:

Short Reports (4) (Korotkiye soobsheniya).

PERIODICAL:

Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1519-1520 (USSR)

ABSTRACT:

In this paper an improved type of magnetic mixing device is recommended, which differs from already known devices of this kind by the fact that here contact between the movable mixer and the walls of the vessel is excluded, and that any sort of disturbance of operation is reduced to a minimum. The mixer is destined for a high number of revolutions of the movable part for any kind of the heterogeneous medium. When it is mounted, special care is taken that the movable bolt of the mixer must fit well into its running socket. For this purpose it is recommended to select the socket and the bolt in such a manner that the motion of the bolt in the socket is nearly jammed, and that by careful subsequent grinding of the bolt the minimum of permitted friction be attained. This is done in order that there is no play whatever between the bolt and the socket. There is 1 figure.

Card 1/2

Short Reports (4)

32-12-60/71

ASSOCIATION: Institute for Biological and Medical Chemistry (Institut
biologicheskoy i meditsinskoy khimii)

AVAILABLE: Library of Congress

Card 2/2 1. Magnetic mixes-Device 2. Magnetic mixes-Operation

SOV/163-58-3-49/49

AUTHOR: Nisel'son, L. A.

TITLE: The Separation of Tantalum, Niobium and Zirconium by Fractional Distillation (Razdeleniye tantala, niobiya i tsirkoniya metodom rektifikatsii)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Metallurgiya, 1958, Nr 3, pp 285-285 (USSR)

ABSTRACT: A rapid separation and purification of tantalum and niobium is carried out by the interaction of the pentachlorides with phosphorus oxychloride. The metal sample investigated, which had the composition 22,5% Nb, 59% Ta and 18% Zr, was converted into chlorides and then was treated with phosphorus oxychloride. The following fractions were obtained: 1) Niobium fraction with about 86% Nb and 0,1% Ta. 2) Tantalum fraction with about 81% Ta and 0,015% Nb. Zirconium was not found in these fractions. The intermediate fractions contain tantalum, niobium and zirconium and may be subjected to the fractional distillation another time. The method of the fractional distillation of pentachlorides in the presence of phosphorus oxychloride has some advantages as compared to the fractional distillation of the simple pentachlorides of niobium and tantalum. The reaction products of niobium and tantalum with phosphorus oxychloride are character-

Card 1/2

SOV/163-58-3-49/49

The Separation of Tantalum, Niobium and Zirconium by Fractional Distillation

ized by a higher volatility than the pentachlorides, and they also show a greater difference between boiling and melting temperatures. There is 1 reference, which is Soviet.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota (Moscow Institute of Non-Ferrous Metals and Gold)

SUBMITTED: January 21, 1958

USCOM-DC-60,913

Card 2/2

SOV/78-3-8-42/43

AUTHORS: Yagodin, G. A., Pozin, G. S., Fisel'son, L. A.

TITLE: The Determination of the Relative Volatility of the Products of the Interaction Between $ZrCl_4$, $HfCl_4$, and $POCl_3$ (Opredeleeniye otноситel'noy letuchesti produktov vzaimodeystviya $ZrCl_4$ i $HfCl_4$ s $POCl_3$)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 8, pp. 1971-1972 (USSR)

ABSTRACT: In the present study the amount of the relative volatility of the products of the interaction between $ZrCl_4$ and $HfCl_4$ with $POCl_3$ was determined by means of a re-circulating apparatus. The hafnium content in the samples was determined by radioactive Hf^{181} . The basic materials were purified by means of the sublimation method. The hafnium content in the basic material HfO_2 amounts to 0,8 per cent. The relative volatility (α) of the materials investigated amounts to $1,160 \pm 0,005$ at the pressure of one atmosphere. There are 1 figure, 1 table, and 3 references, 1 of which is

Card 1/2

SOV/78-3-2-42/49

The Determination of the Relative Volatility of the Products of the Interaction Between $ZrCl_4$, $HfCl_4$, and $POCl_3$

Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I. Mendeleeva (Chemical-Technological Institute imeni D. I. Mendeleev, Moscow) Moskovskiy institut tsvetnykh metallov i zolota im. M. I. Kalinina (Institute for Non-Ferrous Metals and Gold imeni M. I. Kalinin, Moscow)

SUBMITTED: December 12, 1957

Card 2/2

AUTHORS: Nisels' son, L. A., Perekhrest, G. L. SOV/78-3-9-24/58

TITLE: On the Systems $TiCl_4-NbCl_5$ and $TiCl_4-TaCl_5$ (O sistemakh $TiCl_4-NbCl_5$ i $TiCl_4-TaCl_5$)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2150-2155 (USSR)

ABSTRACT: The fusion diagram of the systems $TiCl_4-NbCl_5$ and $TiCl_4-TaCl_5$ was investigated. The temperatures and the melting heat of $TaCl_5$ and $NbCl_5$ were determined by thermodynamic calculations of the experimental results obtained. It was shown that the pentachlorides of these systems approach in broad concentration ranges the ideal ones. The melting temperatures of tantalum pentachloride and niobium pentachloride were determined by means of extrapolation of the liquidus lines. $TaCl_5$ has its melting point at 216,5°C and $NbCl_5$ at 204,5°C. The melting heat of the pentachlorides of niobium and tantalum, calculated from their solubility, amounts to 9,15 k.cal/mol for tantalum pentachloride and 9,95 k.cal/mol for niobium pentachloride.

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SOV/78-5-9-24/58

On the Systems $TiCl_4-NbCl_5$ and $TiCl_4-TaCl_5$

There are 6 figures, 1 table, and 12 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota im. M. I. Kalinina (Moscow Institute of Non-Ferrous Metals and Gold imeni M. I. Kalinin)

SUBMITTED: July 8, 1958

Card 2/2

SOV/78-3-12-4/36

AUTHOR: Nisel'son, L. A.

TITLE: II. The Separation and Purification of Tantalum and Niobium by the Rectification of Their Pentachlorides (II. Razdeleniye i ochistka tantala i niobiya rektifikatsiyey ikh pentakhloridov)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2603-2617 (USSR)

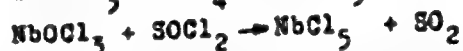
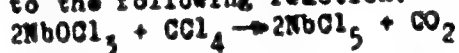
ABSTRACT: A critical analysis was made of the volatile compounds of niobium and tantalum for the purpose of applying them in the separation and purification of these elements by the rectification method. The pentachlorides appeared to be of great importance in the separation of niobium and tantalum. Theoretical calculations showed that by the rectification of the pentachlorides an effective separation is possible. Accompanying elements, for example Ti, Si, Fe, Zr, V, Pb, W, Mo, P, and others can be separated by the rectification method. Rectification plots were calculated for $TaCl_5-NbCl_5$, and these are given in figures 5, 6, and 7. In the present paper the separation of niobium and tantalum and the purification of these elements from the accompanying impurities was carried out by

Card 1/2

SOV/78-5-12-4/56

II. The Separation and Purification of Tantalum and Niobium by the Rectification of Their Pentachlorides

rectification at atmospheric pressure and using a column with 25 plates. The experiments were carried out using chloride mixtures with varying niobium and tantalum content, and the accompanying elements. For a successful separation it is absolutely necessary that all acid-containing chlorides of niobium and tantalum be absent. For the production of purest chlorides chlorination with CCl_4 at 290 to 310°C or with SOCl_2 at 240 to 250°C was carried out. The chlorination proceeds according to the following reaction:



The boiling temperatures of the pentachlorides of niobium and tantalum under atmospheric pressure were found to be the following: TaCl_5 - 234.0 ± 0.25°, NbCl_5 - 248.3 ± 0.25°.

There are 7 figures, 5 tables, and 37 references, 17 of which are Soviet.

SUBMITTED: August 10, 1957

Card 2/2

5(3)

AUTHORS:

SOV/76-4-4-42/44
Nisel'son, L. A., Edel'shteyn, L. E., Ivanov-Emin, B. N.

TITLE:

Investigation of the System Benzene - Silicon Tetraiodide
(Izucheniye sistemy benzol-tetrayodid kremniya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 954-956
(USSR)

ABSTRACT:

The authors investigated the system $\text{SiJ}_4\text{-C}_6\text{H}_6$. Silicon tetraiodide in pure state was obtained by distillation. C_6H_6 and SiJ_4 form a system of a simple eutectic type without chemical interaction of the components. The solubility of SiJ_4 in benzene was determined by a visual synthetic method. The data on the solubility virtually form a straight line in the coordinate system $1/T\text{-lg}N$, where T denotes the absolute temperature, and N the mole number of SiJ_4 . The solution heat of SiJ_4 in benzene amounts to 6.2 kcal/mole. The solubility of the iodides PJ_3 , Al_2J_6 , SbJ_3 , HgJ_2 and AsJ_3 in benzene was investigated; the results are contained in table 2. These compounds frequently

Card 1/2

SOV/78-4-4-42/44

Investigation of the System Benzene - Silicon Tetraiodide

act as impurities in silicon tetraiodide. Single crystallization does not yield purest silicon tetraiodide. The phase equilibrium crystals - liquid in the system $SiI_4-C_6H_6$ is characterized in a table. There are 1 figure, 2 tables, and 2 references. 1 of which is Soviet.

ASSOCIATION: Moskovskiy institut tsvetnykh metallov i zolota im. M. I. Kalinina (Moscow Institute of Nonferrous Metals and Gold named M. I. Kalinin)

SUBMITTED: November 22, 1958

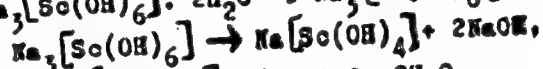
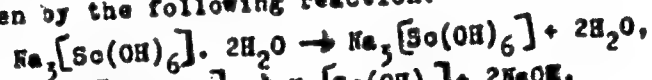
Card 2/2

On the Transformation of the Hydroxo-compounds of
Gallium, Indium, and Scandium During Heating

SOV/78-4-6-29/44

gram of $\text{Na}_3[\text{Sc}(\text{OH})_6] \cdot 2\text{H}_2\text{O}$ was taken and is given in figure 8.

The dehydration temperature of sodium tetrahydroxoscandiate is higher than the corresponding temperature of the tetrahydroxoindiate, since the polarization effect of the indium ion is greater than that of the scandium ion. The thermal transformation of the hydrate of the sodium hexahydroxoscandiate is given by the following reaction:



The corresponding radiographs of $\text{Na}[\text{Ga}(\text{OH})_4]$, $\text{Na}_3[\text{In}(\text{OH})_6] \cdot 2\text{H}_2\text{O}$, their heating products, and the radiographs of sodium meta-indiate NaInO_2 and $\text{Na}_3[\text{Sc}(\text{OH})_6] \cdot 2\text{H}_2\text{O}$ and their heating products as well as the thermal dissociation of the sodium meta-scandiate NaScO_2 are given in figures 4, 7, and 9. There are

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9 figures, 1 table, and 8 references, 5 of which are Soviet.

5.(2)

AUTHORS:

Sheka, I. A., Voytovich, E. A.,
Niseli'son, L. A.

SOV/78-4-8-16/43

TITLE:

On Compounds of Pentachlorides of Niobium and Tantalum With
Phosphoroxychloride (O soedineniyakh pentakhloridov niobiya
i tantala s khlorokis'yu fosfora)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8,
pp 1803 - 1808 (USSR)

ABSTRACT:

The investigation of the systems NbCl_5 - POCl_3 and TaCl_5 -
- POCl_3 is of practical importance since the distillable re-
action products of these systems may be used for the separa-
tion and the purification of tantalum and niobium by rectifica-
tion (Ref 1). The phase equilibria crystal - liquid and liquid-
vapor were investigated. In contrast to the phosphoroxy chlo-
ride compounds of ZrCl_4 and HfCl_4 which are characterized by
a strong cooling, $\text{NbCl}_5 \cdot \text{POCl}_3$ and $\text{TaCl}_5 \cdot \text{POCl}_3$ crystallize well.
Both systems form monomolecular, thermally easily dissociable
compounds in agreement with reference 2. The melting temperature
of $\text{NbCl}_5 \cdot \text{POCl}_3$ is 124.5° , that of $\text{TaCl}_5 \cdot \text{POCl}_3$ 132.4° . The

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CHERNYAYEV, V.N.; NISEL'SON, L.A.

Studying the efficiency of retorts of various types for the
distillation of silicon halogenides. Izv.vys.ucheb.zav.; tevet.
mat. 3 no.2:135-142 '60. (MIRA 15:4)

1. Krasnoyarskiy institut tevetnykh metallo; problemnaya laboratoriya
chistykh metallo, metallicheskih soyedineniy i poluprovodnikovyykh
materialov. (Silicon halides) (Distillation apparatus)

68115

SOV/7E-5-1-27/45

5.4110
5(2)

AUTHORS: Nisels'zon, L. A., Larionova, L. Ye.

TITLE: On the Interaction of Zirconium Tetrachloride With Phosphorus Pentachloride

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 172-174 (USSR)

ABSTRACT: The authors carried out a thermal analysis of the system $ZrCl_4 - PCl_5$ and determined the relative volatility of the products of reaction of $ZrCl_4$ and $HfCl_4$ with PCl_5 . The liquidus temperatures were determined according to V. F. Alekseyev. The temperatures were measured on a PP potentiometer by means of two thermocouples connected in series. The thermograms were recorded by a Kurnakov pyrometer. Results are shown in a table and in figure 1. The congruently melting compound $ZrCl_4 \cdot PCl_5$ (melting point: 365°) is formed. Figure 2 illustrates the dependence of the logarithm of molar concentration of the compounds $ZrCl_4$ and $ZrCl_4 \cdot PCl_5$ upon the reciprocal value of the liquidus temperature. The strong curvature is indicative of

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SOV/78-5-1-27/45

On the Interaction of Zirconium Tetrachloride With Phosphorus Pentachloride

association of the two components, which is in accordance with the formation of $2\text{ZrCl}_4 \cdot \text{PCl}_5$ observed at low temperatures. The almost equal composition of the azeotropic and the eutectic point corresponds to the composition of the thermally instable compound $2\text{ZrCl}_4 \cdot \text{PCl}_5$. The product resulting from reaction of PCl_5 and commercial ZrCl_4 , which contained 1% of HfCl_4 , was rectified in inert atmosphere. The separation could not be carried out as completely as in the experiments with POCl_3 described in reference 5. If the rectification is carried out without inert atmosphere, lyophobic flakes of zirconium phosphates develop under the action of atmospheric oxygen which clog the rectifying column. The relative volatility of the azeotropic rectification products of ZrCl_4 and HfCl_4 with PCl_5 was determined to 1.15 and 1.14. There are 2 figures, 1 table, and 7 references, 4 of which are Soviet.

SUBMITTED:
Card 2/2

September 17, 1958

5.2400(A)

5(e)

AUTHORS:

Fedorov, T. F., Shamray, F. I., Nisels' son, L. A.,
Petrusevich, I. V.

68120
SOV/78-5-1-39/45

TITLE:

On the Production of Elementary Boron

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1,
pp 226-228 (USSR)

ABSTRACT:

After giving a survey of publications with reference to a paper by F. I. Shamray and V. I. Mikheyev (Ref 6), the authors mention that commercial boron has a purity of about 90%. Boron with a higher degree of purity (99%) is produced only in small quantities. The authors attempted to obtain pure boron by reducing BCl_3 with Zn. Thermodynamic investigation of this reaction (Table, Fig 1) indicates that it may be carried out within a wide temperature range. As boron chloride reacts slowly even with liquid zinc, Zn was evaporated in a device schematically represented in figure 2. The reaction took place in a quartz tube heated to 1000° . It was stopped as soon as the tube was completely filled with the reaction products (Figs 3,4). The latter were decomposed into B, Zn, and ZnCl_2 in quartz

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SOV/78-5-1-39/45

On the Production of Elementary Boron

ampoules by distillation at 1000° . The boron, the purity of which is not given, contained impurities of Fe, Mn, Zn, Al, and Si. There are 4 figures, 1 table, and 16 references, 3 of which are Soviet. ✓

SUBMITTED: May 31, 1959

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68217

5(2) 5. 2200(D)

AUTHORS:

Nisels' son, L. A., Petrusovich, I. V.

S/076/60/005/02/003/045
8004/8016

TITLE:

Synthesis of Tantalum³ and Niobium³ Iodides by Interaction of
TaCl₅ and NbCl₅ With Al₂J₆ and SiJ₄

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 2, pp 249-254
(USSR)

ABSTRACT:

The purpose of the present paper was the preparation of pure iodides of Ta and Nb which might be used in the production of pure Ta and Nb. The authors first investigated the reaction between TaCl₅ and NbCl₅ on the one hand, and Al₂J₆ and SiJ₄ on the other, by means of thermal analysis. The thermal analysis was made in a special vial (Fig 1), the heating curves were recorded by means of a Kuznetsov pyrometer. The results are shown in table 1 and figures 2-5. The reactions with NbCl₅ proceed more vigorously than those with TaCl₅, in which connection NbCl₅ reacts with Al₂J₆ at lower temperature and with a higher thermal effect than TaCl₅. The synthesis of the iodides of Ta and Nb was carried out with 10% excess Al₂J₆ or SiJ₄ in a vial shown

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Synthesis of Tantalum- and Niobium Iodides by
Interaction of $TaCl_5$ and $NbCl_5$ With Al_2J_6 and SiJ_4

68217
S/076/60/005/02/003/045
B004/B016

in figure 6. The reaction with $NbCl_5$ was made at 300-320°, that with $TaCl_5$ at 400-420°. The volatile chlorides and excess iodides of Al and Si were removed either by heating in vacuum, or by washing out with benzene. All operations were carried out under exclusion of moisture. The analyses of the resultant iodides and their experimental formulas are given in table 2. The iodides transformed into oxides were furthermore investigated spectroscopically, and contained less than 1/100 per cent of Al or Si. The most complete reaction takes place between Al_2J_6 and $TaCl_5$. Chlorine is removed to a practically complete extent by a second treatment of TaJ_5 or NbJ_5 with Al_2J_6 . The composition of the iodides corresponded to the formulas $Ta_1J_{4.95-5.0}$ and $Nb_1J_{4.5-4.6}$. The use of Al_2J_6 gives better results than that of SiJ_4 . There are 6 figures, 2 tables, and 11 references, 4 of which are Soviet.

ASSOCIATION:
Card 2/3

Moskovskiy institut tsvetnykh metallov i zolota in. N. I. P. linina (Moscow Institute of Nonferrous Metals and Gold)